



Biologists: Salmon face extinction

They want the wild fish placed on the endangered list, but Maine already has a plan and threatens to sue.

RIVERS INVOLVED

The report released Friday concludes a review of biological information about salmon populations in seven Maine rivers:

The Narraguagus, Pleasant, Machias, East Machias, Dennys, Ducktrap and Sheepscot.

By DIETER BRADBURY
Staff Writer

The wild Atlantic salmon, a symbol of Maine's rich outdoor heritage, is in danger of extinction, a team of federal fisheries biologists warned Friday.

The report from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service said the fish are facing oblivion at least partly because of threats from the aquaculture industry, recreational fishing and water withdrawals from their rivers for agriculture. Biologists said a conservation plan adopted by the state in 1997 has failed to reduce the most serious threats.

Environmental groups that have sued the agencies for failing to put wild salmon on the Endangered Species List said the report shows that a listing is vital.

"The implication of this report is not whether the fish are going to be listed or not, but when," said David Carle of Conservation Action in New Hampshire.

But Andrew Rosenberg, deputy director of the National Marine Fisheries Service, said the federal agencies haven't decided yet how to respond to the report.

Gov. Angus King said he would sue the agencies if they decided to list the fish.

"The issue for us has always been,

Please see SALMON
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Nooksack chinook on threatened list

ENVIRONMENT: Proposed listing to be announced today; year of public hearings are expected.

THE BELLINGHAM HERALD
AND THE ASSOCIATED PRESS

Federal officials today will propose that Nooksack River spring chinook stocks be listed as "threatened" under the Endangered Species Act.

The fish species would join dozens of other Puget Sound river chinook stocks in line for federal protection.

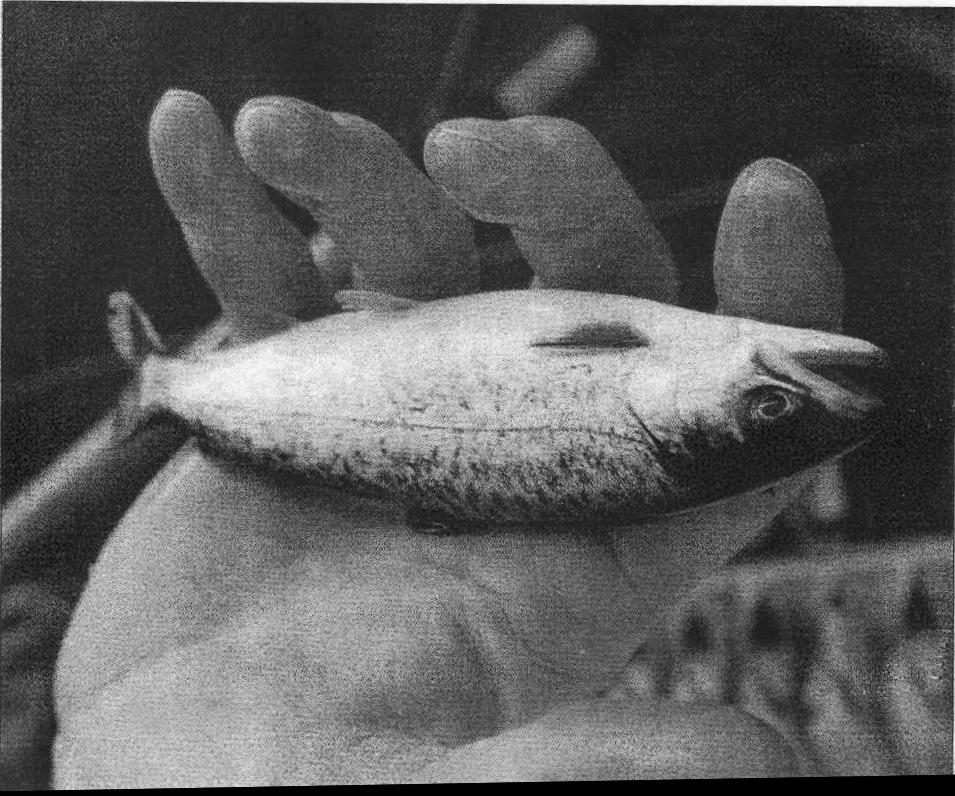
The proposal was expected, but the exact designation — "endangered" or "threatened" — was unknown. The possible impacts from a listing are expected to be huge, since it would be the first time the Endangered Species Act would be applied to a densely populated area like Puget Sound.

A listing would require federal, state and local governments to regulate such land-and water-use decisions as where housing developments take place and how sewage disposal is regulated.

The National Marine Fisheries Service will announce the proposed designation during a news conference this morning.

Ensuing decisions are expected to lead to fundamental changes in the heavily populated areas, as steps are taken to protect the dwindling numbers of the fish from effects of development, fishing and pollution.

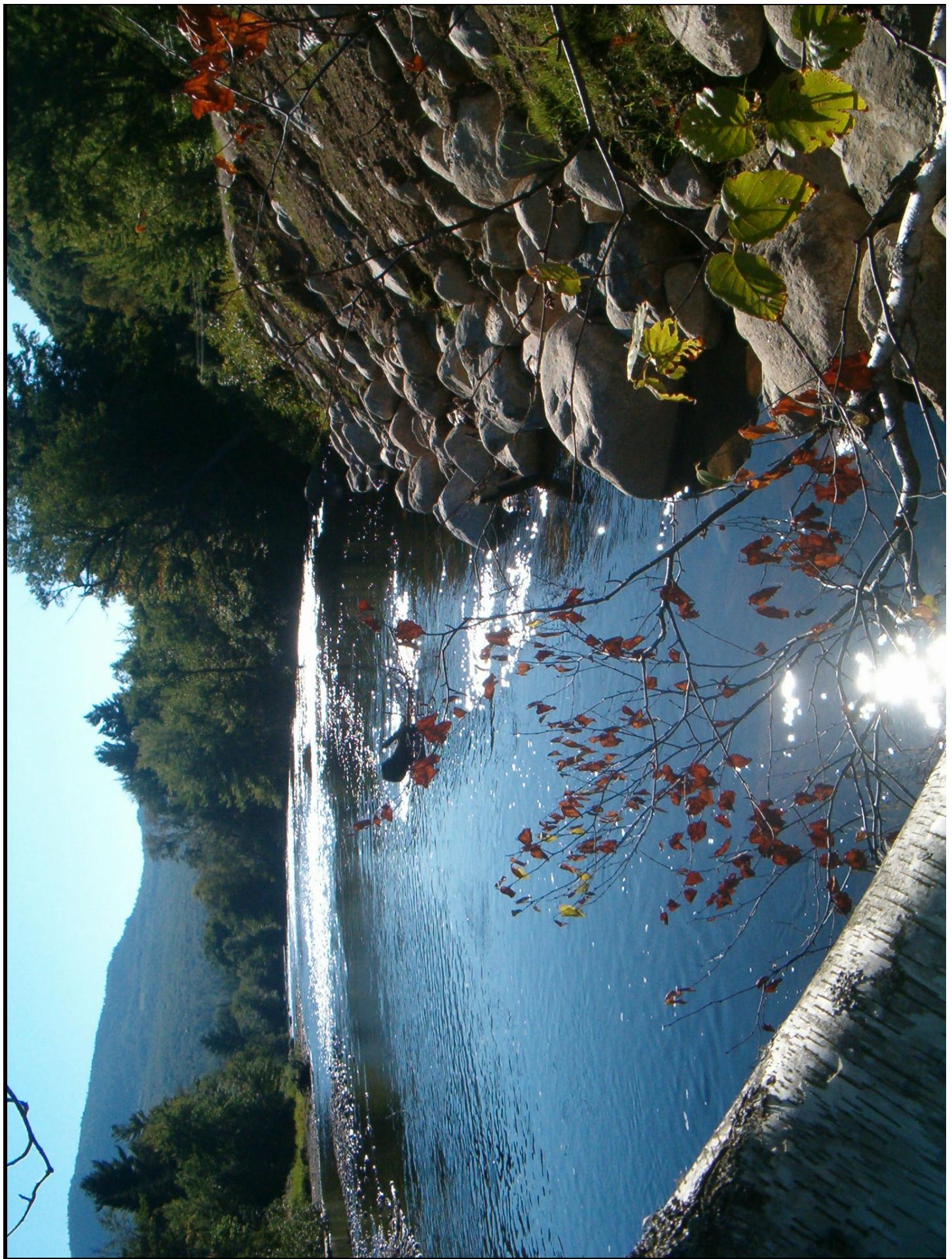
NMFS spokesman Brian Gorman said the chinook populations for Puget Sound would be proposed for a "threatened" designation under the act, while the Central Valley chinook, found in Northern California's Sacramento and American rivers, would be proposed for an "endangered"



See CHINOOK, Page A2, Col. 1

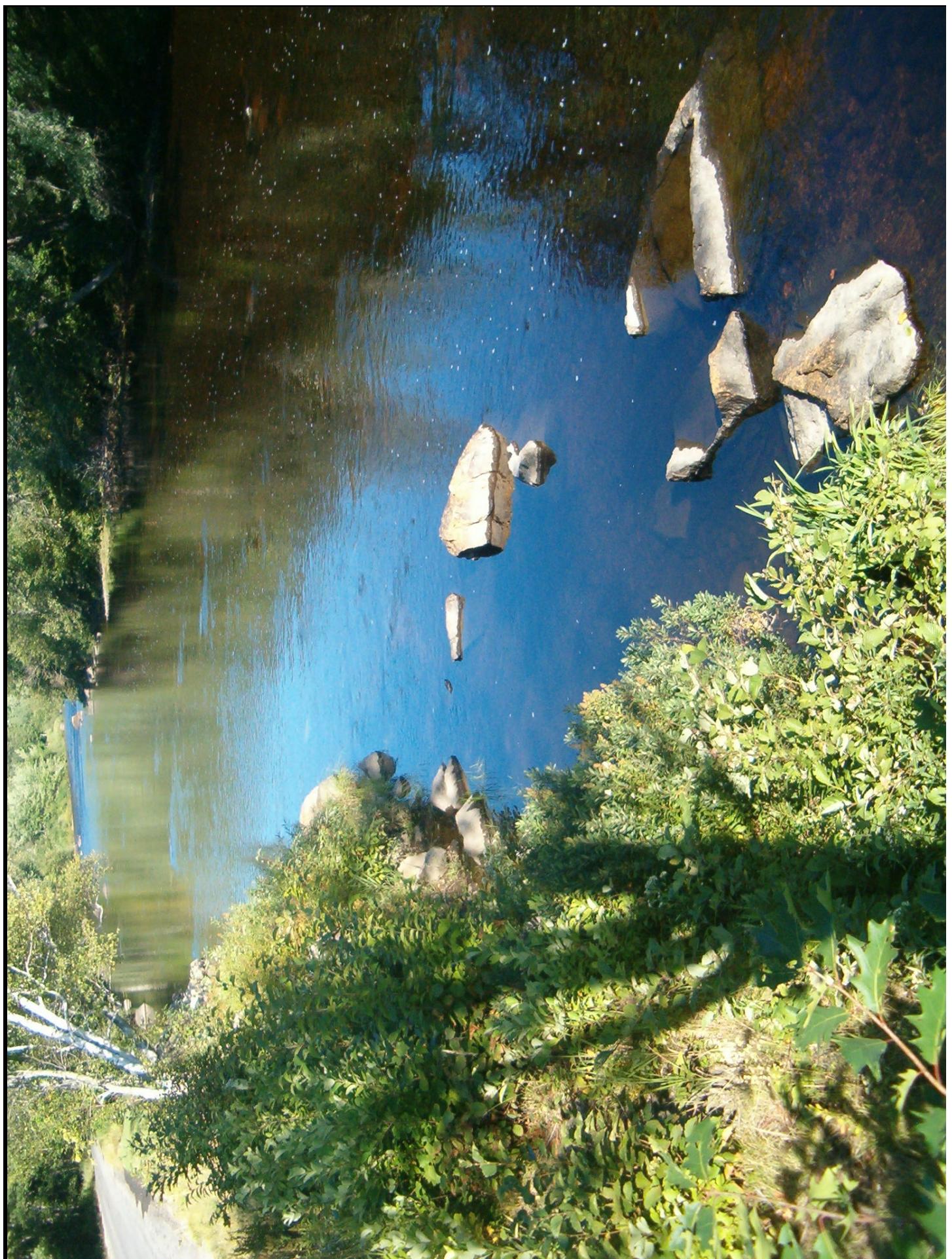






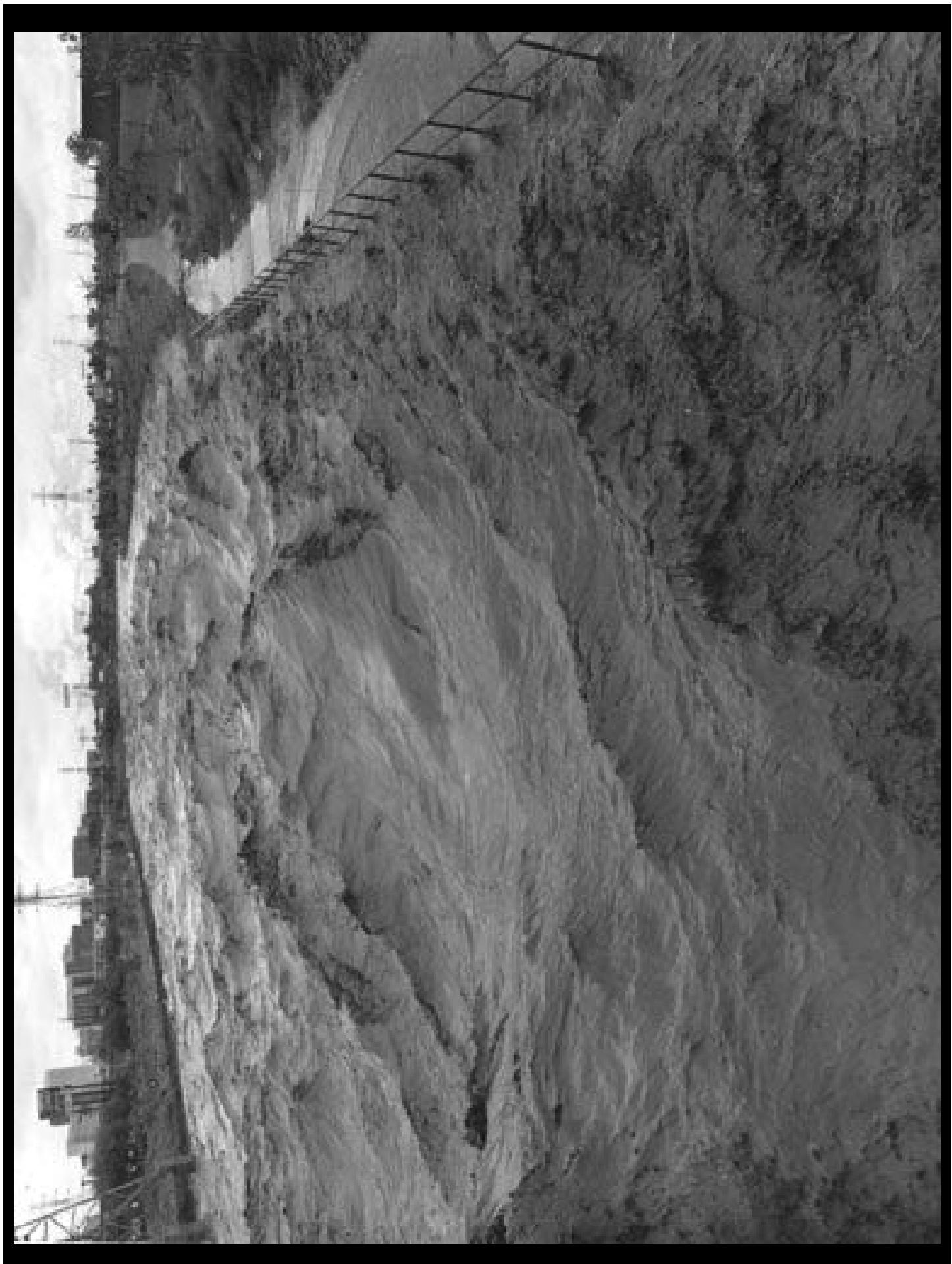


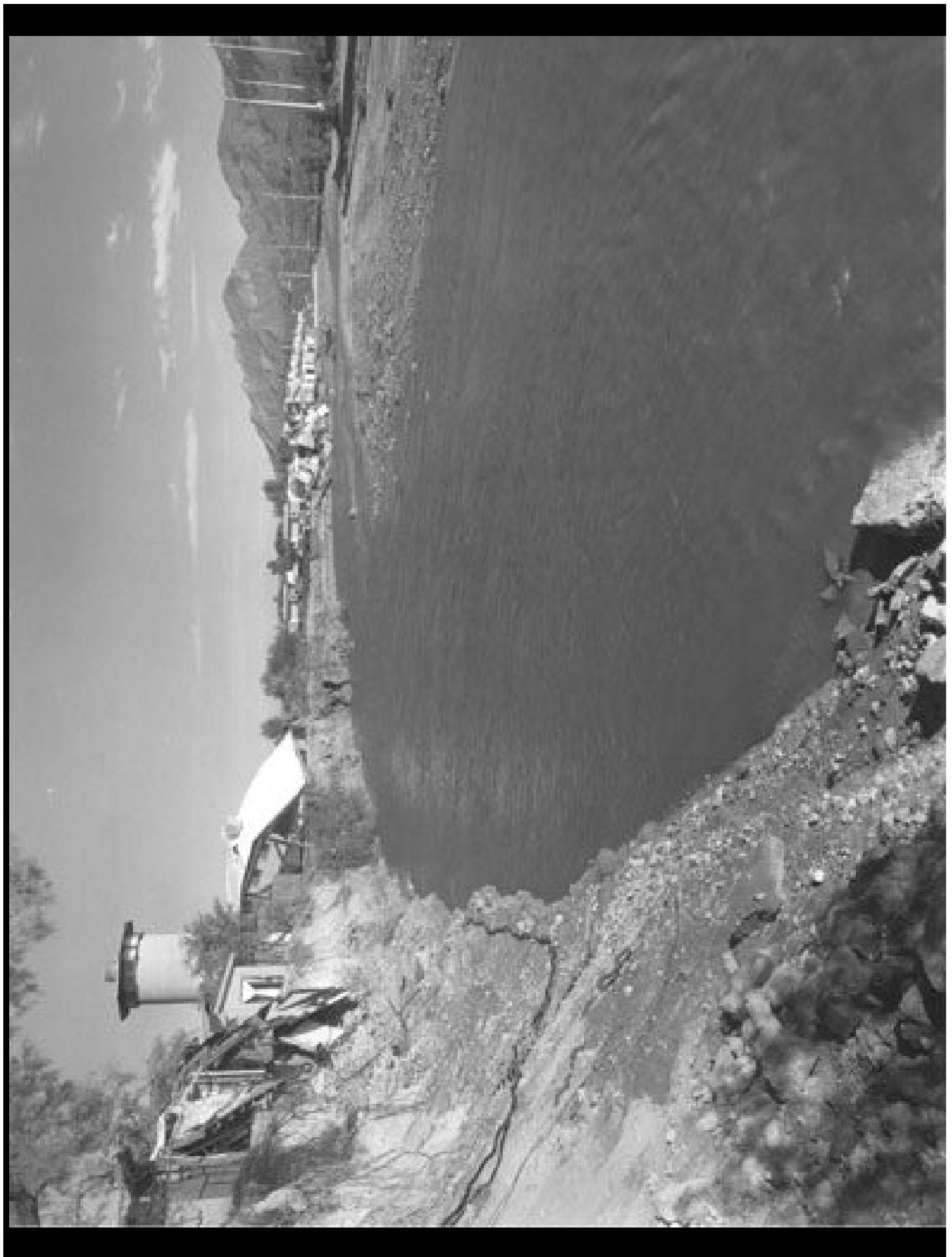












Fluvial Geomorphology

Study of stream response to natural
watershed characteristics and
human land use

Watershed Factors Controlling Channel Behavior

Natural Conditions

- Bedrock geology
 - Glacial sediments
 - Soils
 - Watershed size & shape
 - Climate (floods/vegetation)
 - Fluctuating lake or sea levels
 - Tributary inputs
- ## Human Land Uses
- Roads/railroad
 - Levees and berms
 - Floodplain development
 - Bridges
 - Bank revetments
 - Channel straightening
 - Dredging/gravel mining
 - Land clearance
 - Dams

Equilibrium

River channel dimensions adjusted to prevailing watershed conditions - through erosion and deposition of bed and banks

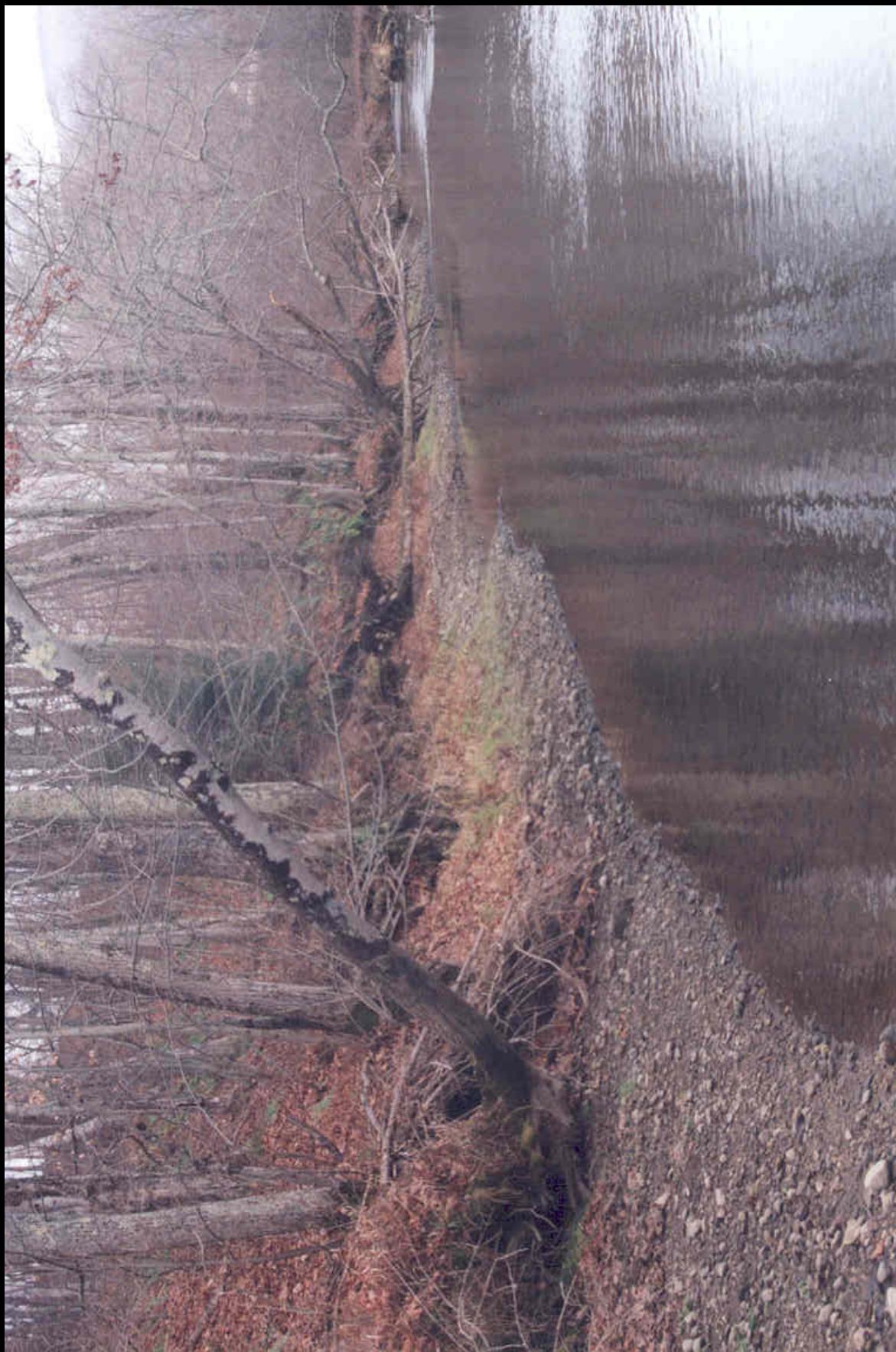
If watershed conditions change significantly, river channel will change in response!

If watershed conditions remain the same, channel dimensions will remain the same!

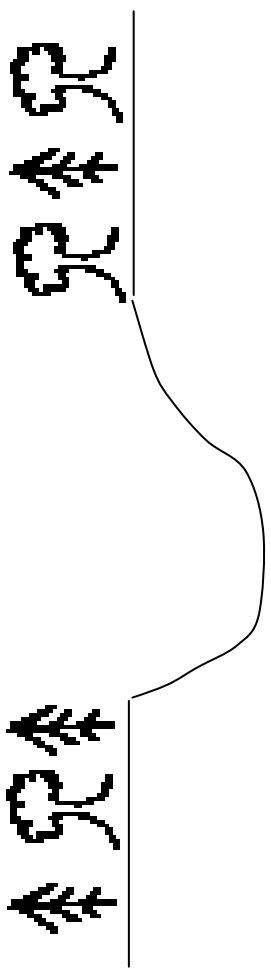
Principles of Equilibrium

- Channel dimensions adjusted to dominant sediment and water discharge

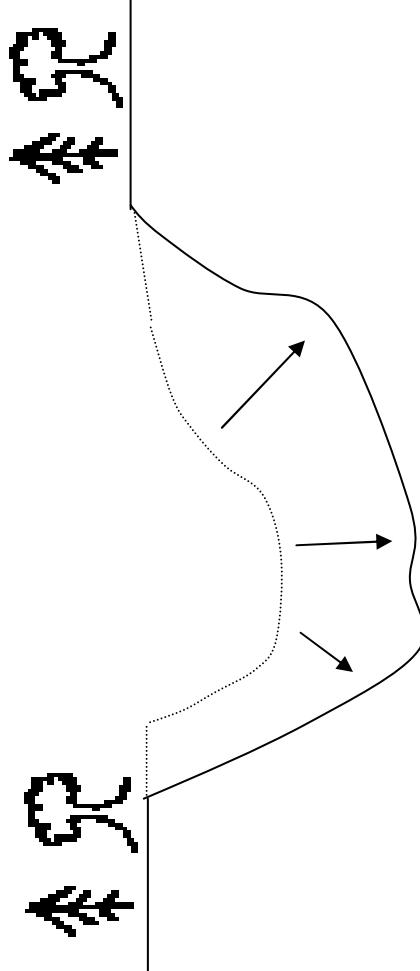
Concept of bankfull



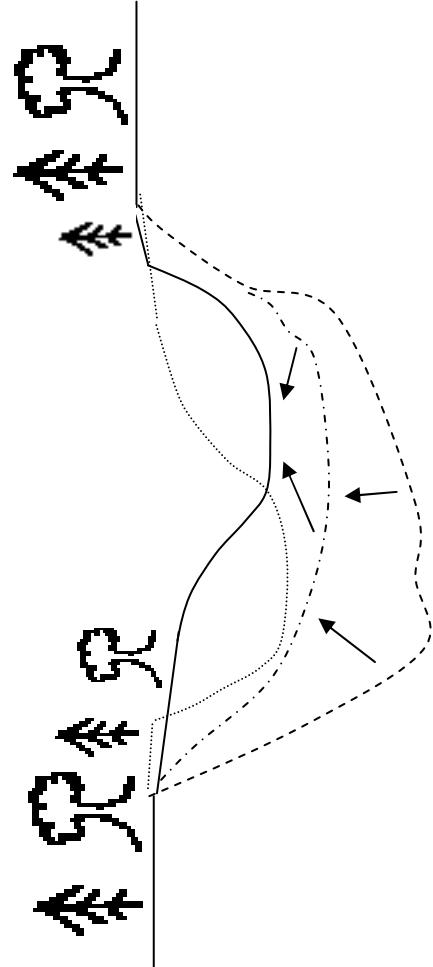
Concept of Bankfull Discharge



- Channel adjusted to small to moderate discharges



- Extreme flood enlarges channel



-Channel backfills with small to moderate floods
-Recovery time varies with climate

PRATT SIDE



Floodwork on Branch - Oct. 7, 1973.

MEAR'S SIDE



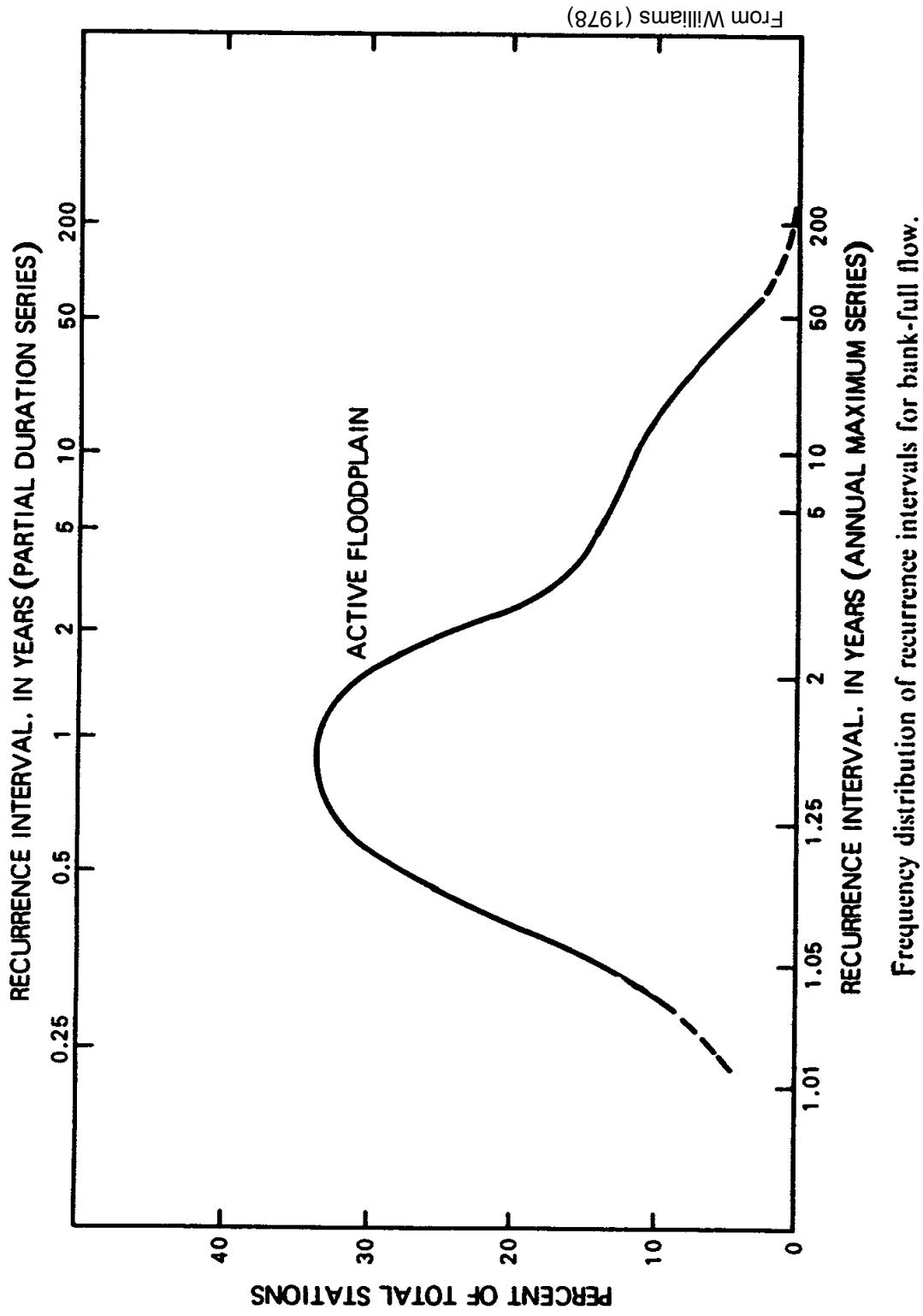
1973 Berm



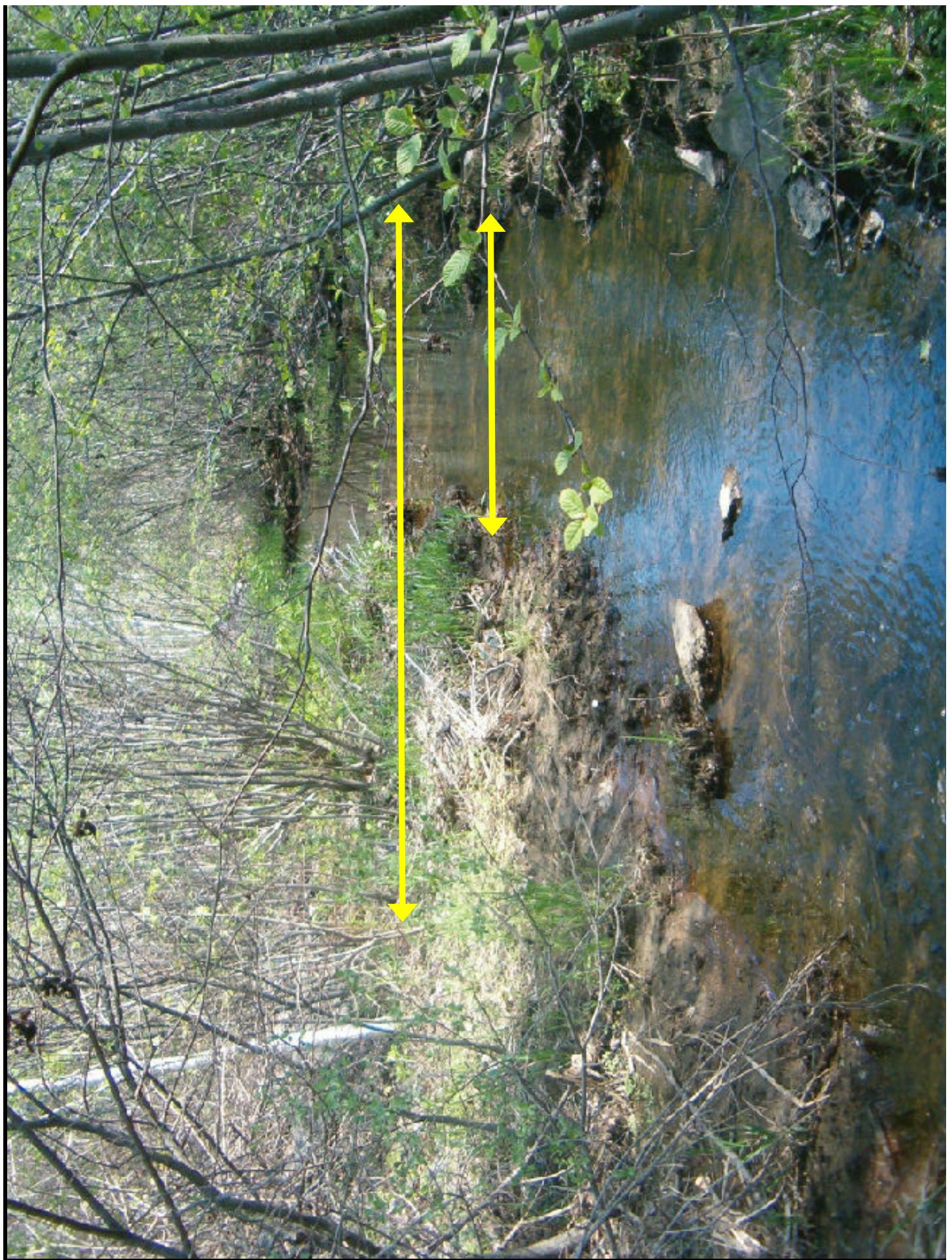




Recurrence Intervals of Bankfull Flows













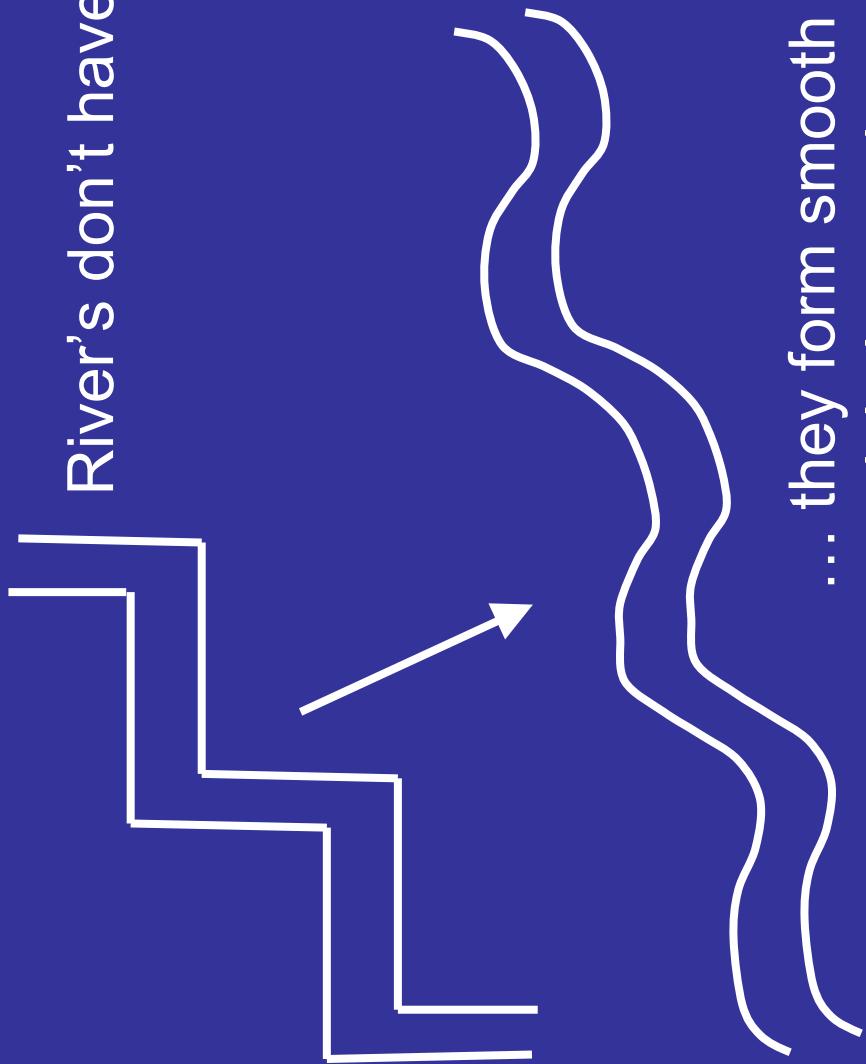


Principles of Equilibrium

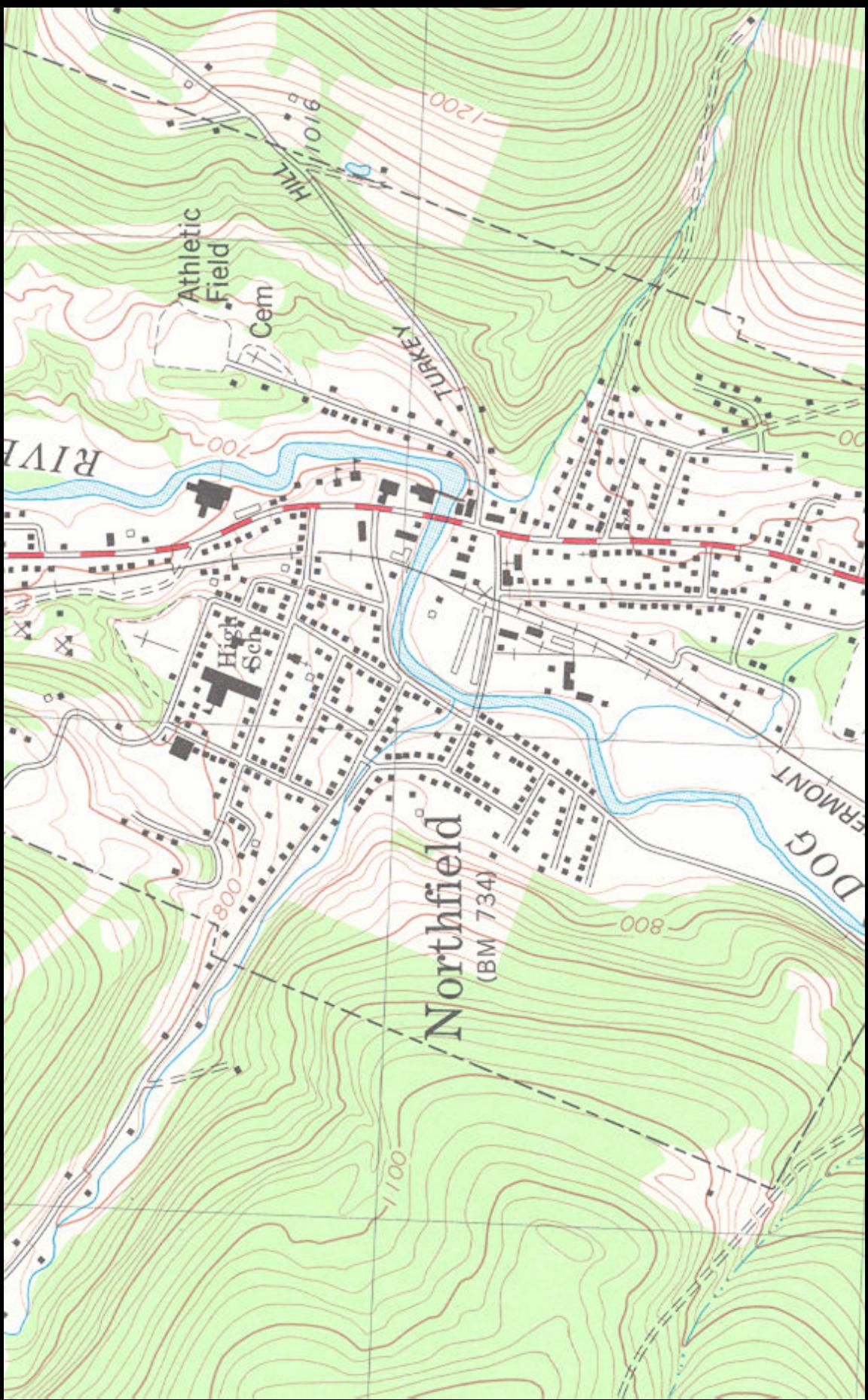
- Channel dimensions adjusted to dominant sediment and water discharge
- Change from one point to the next minimized throughout the river system
 - Rivers don't like fast changes!!!!!!*

Rivers don't like fast changes

River's don't have sharp bends like this...

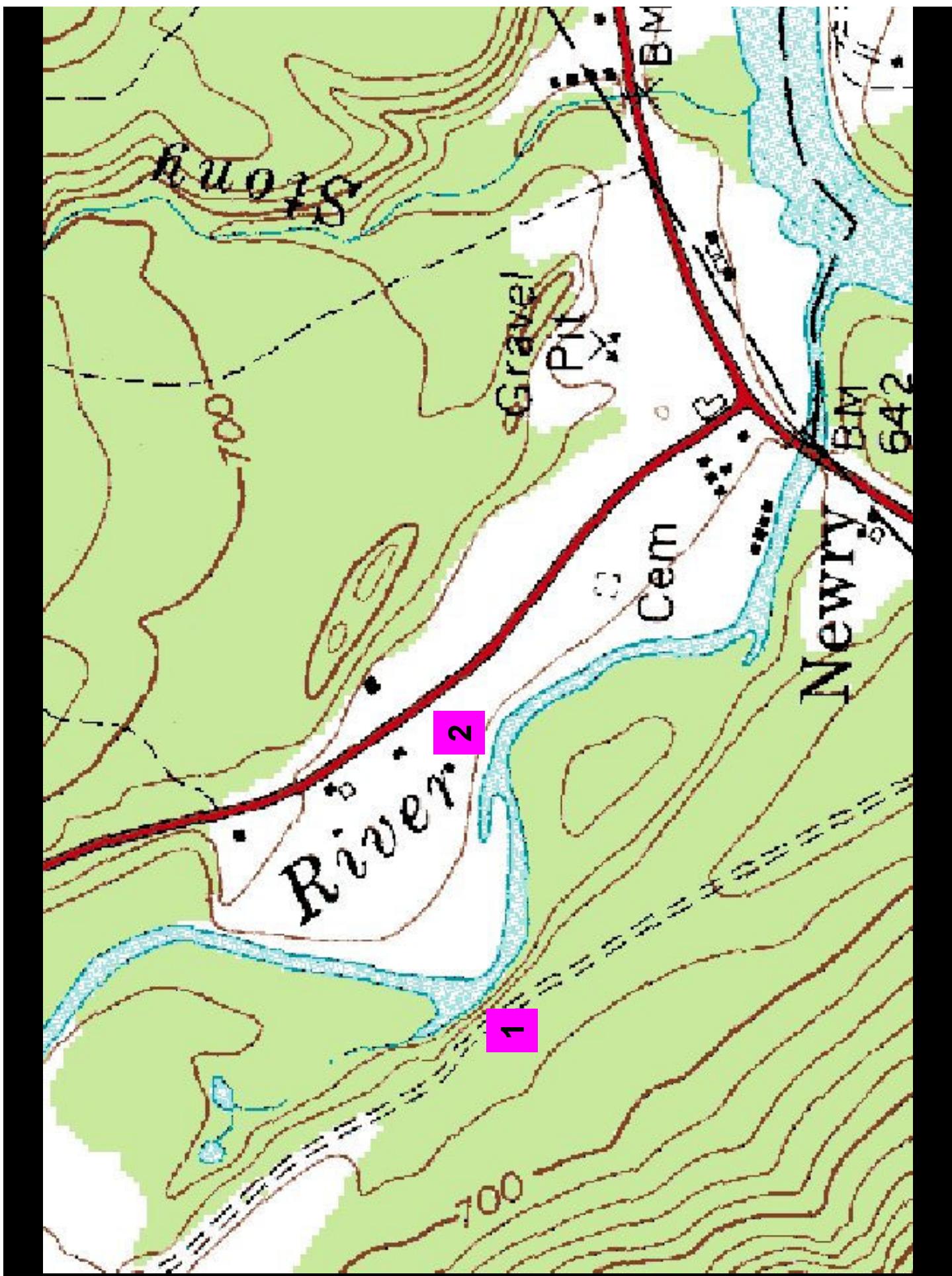


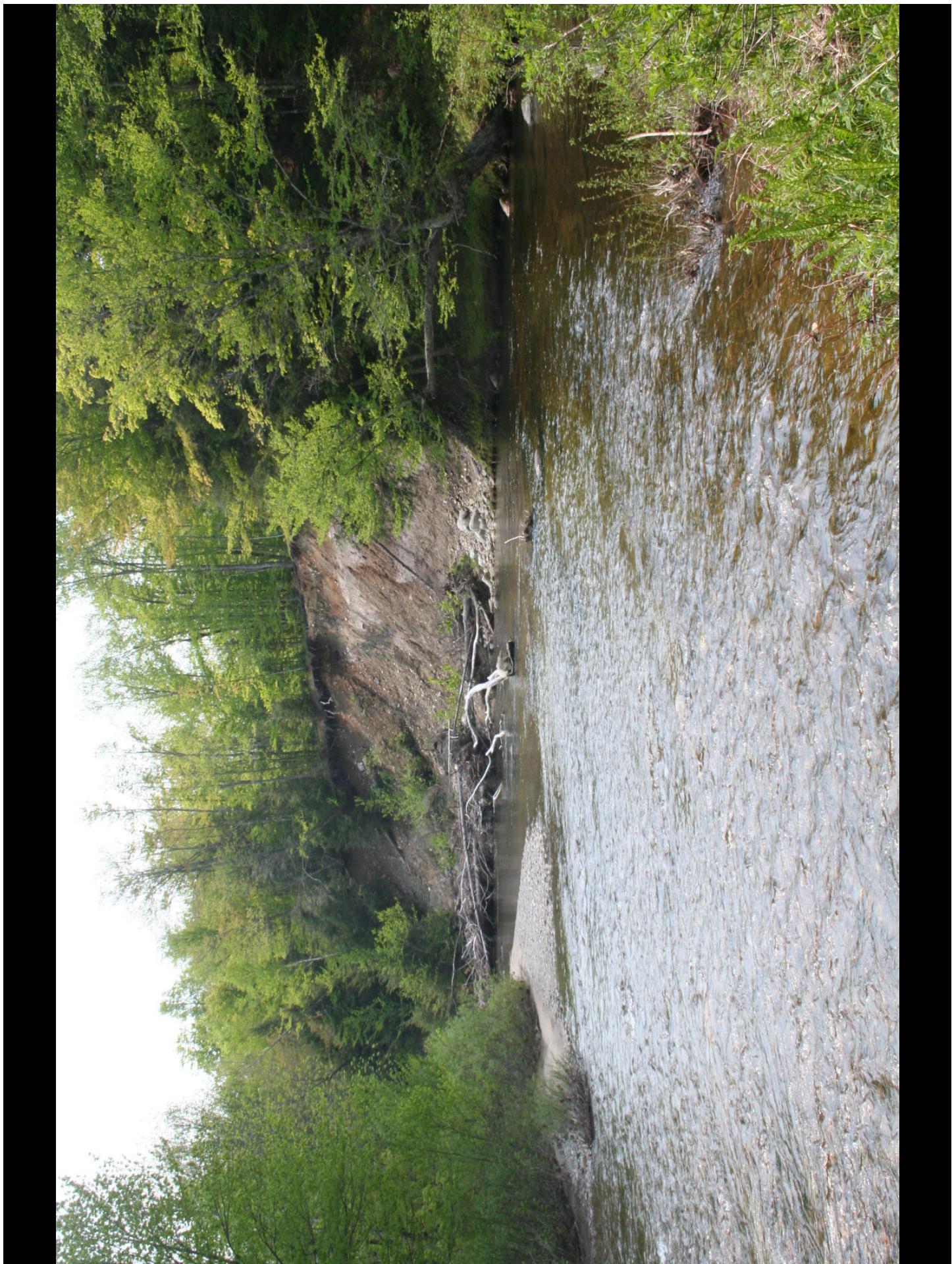
... they form smooth meanders like this
to minimize turning at any one point



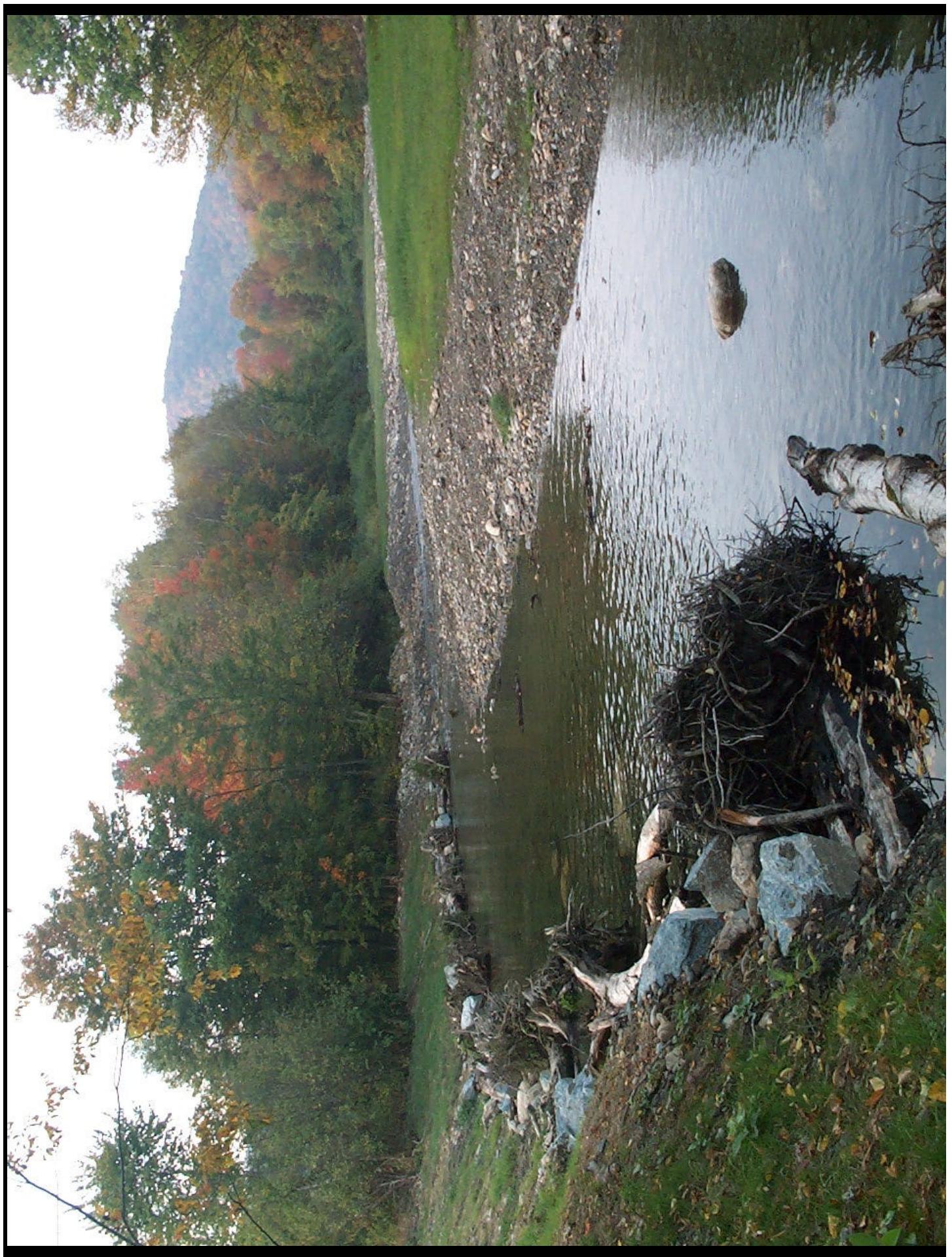




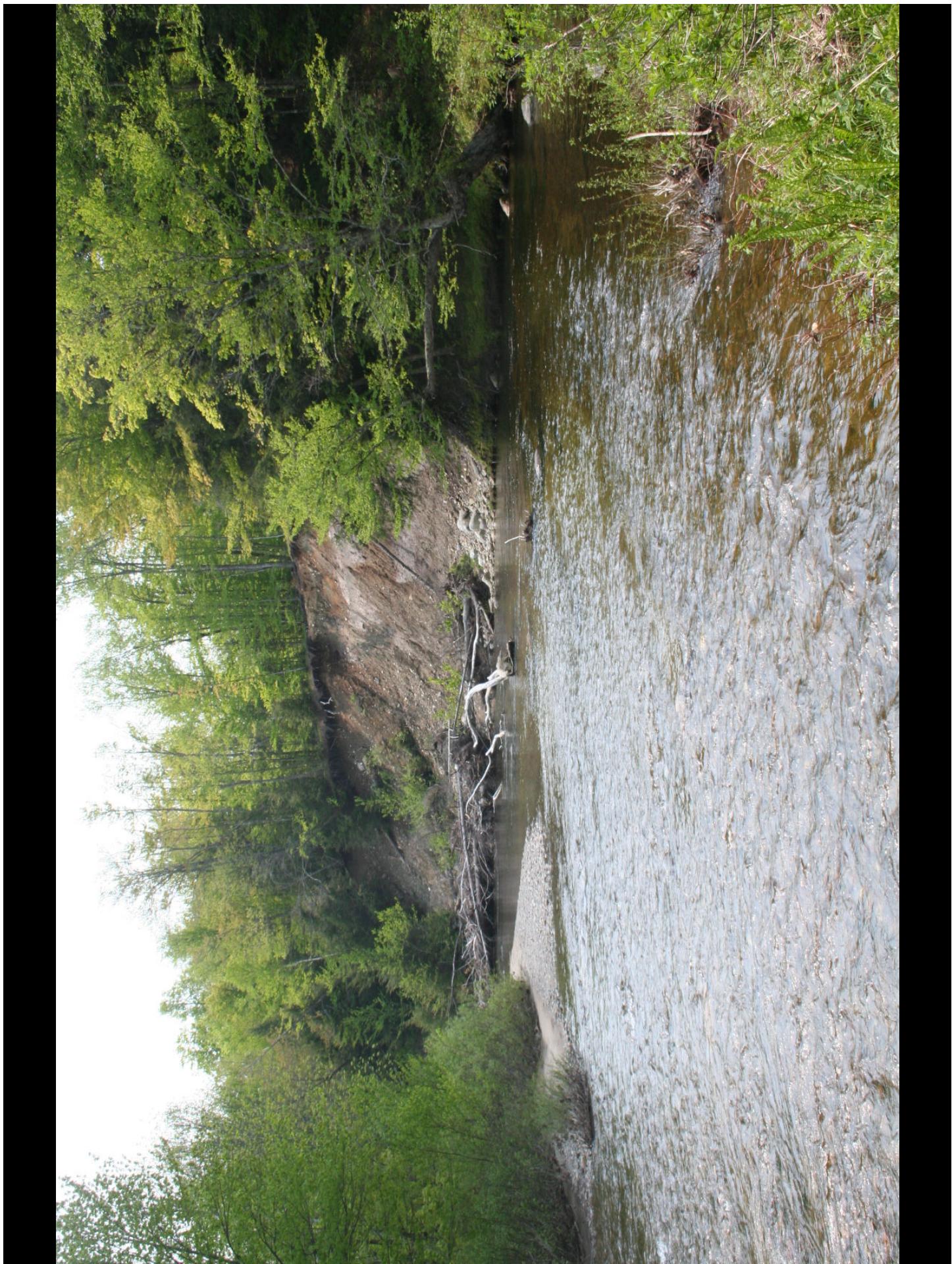


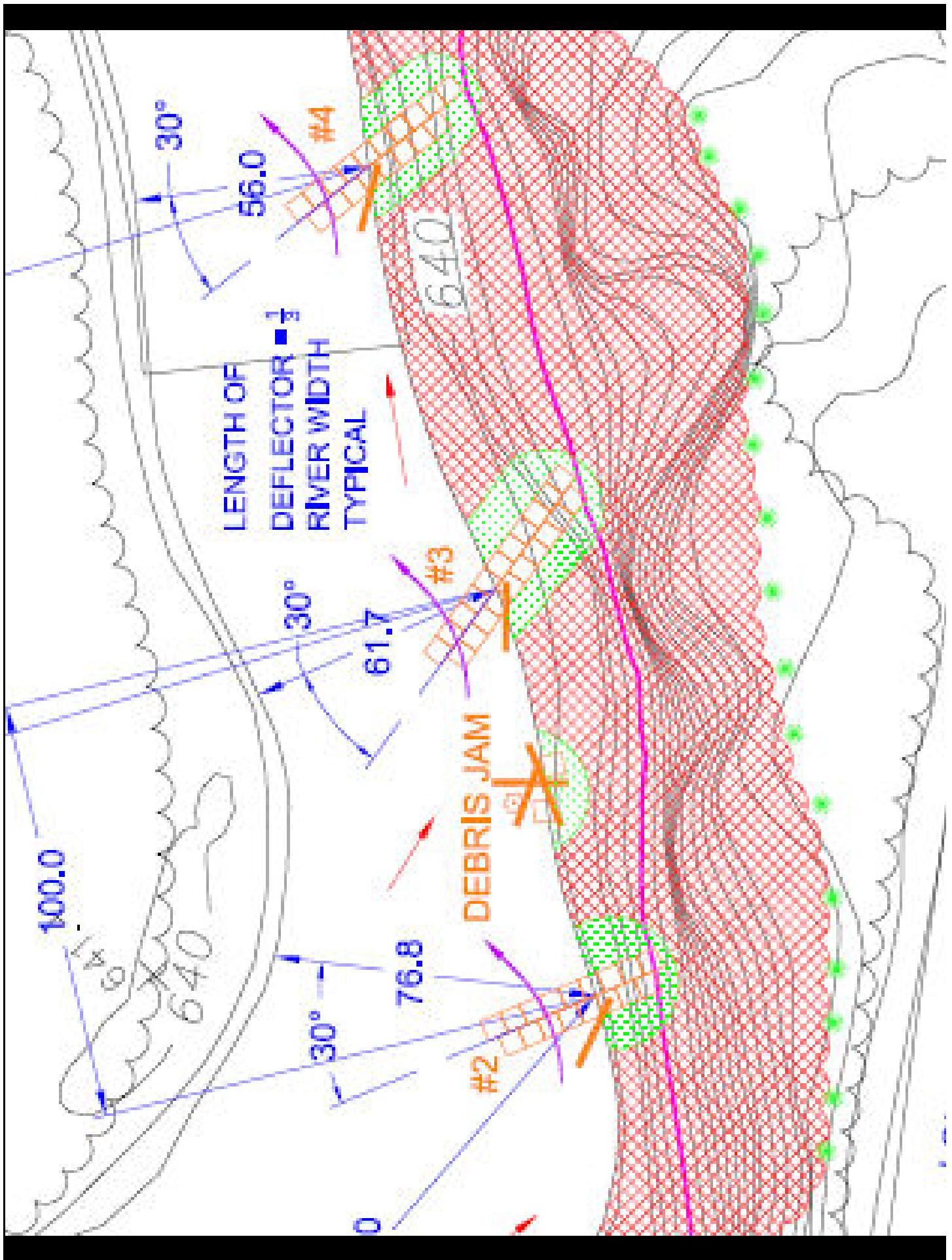


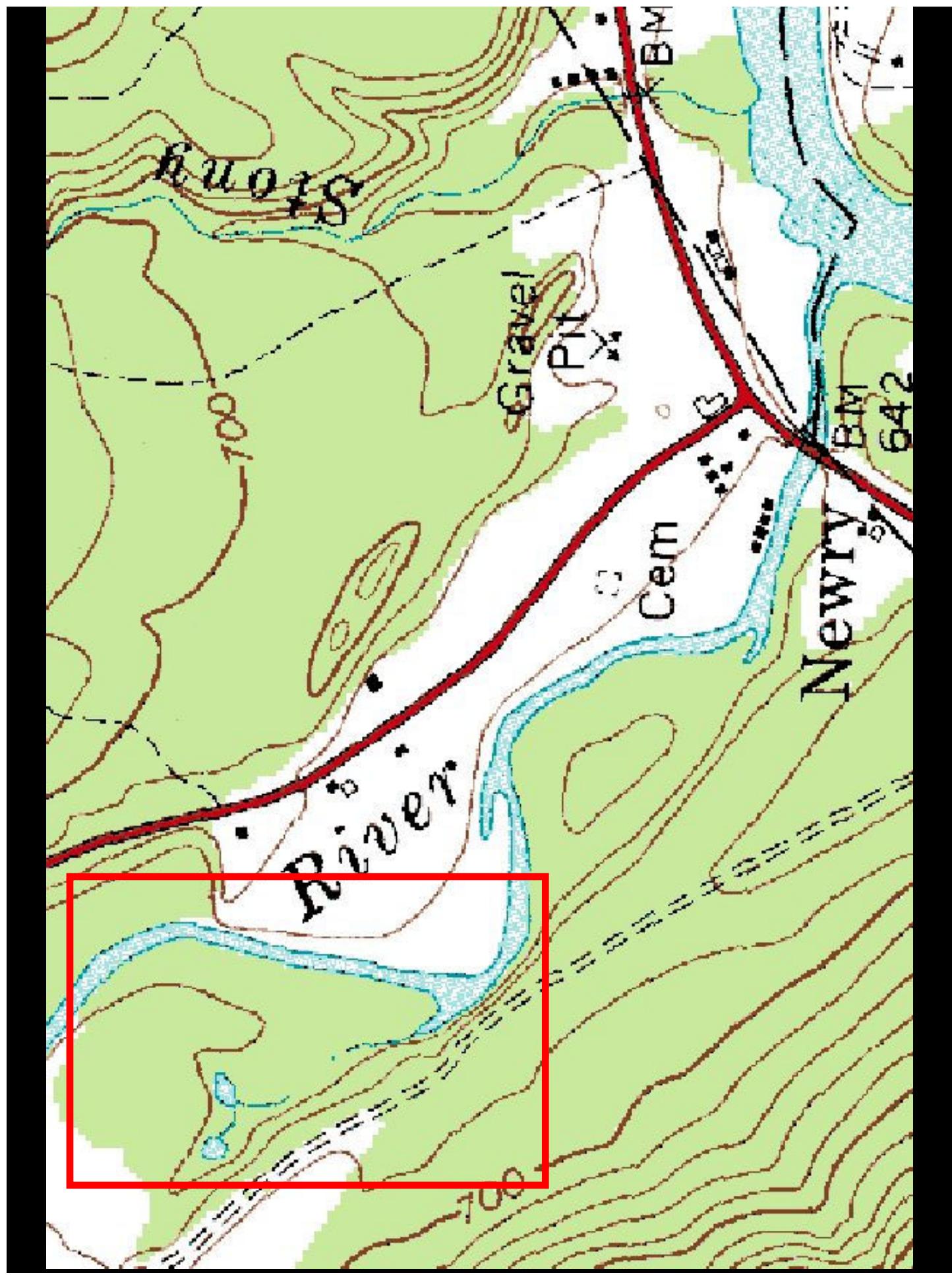






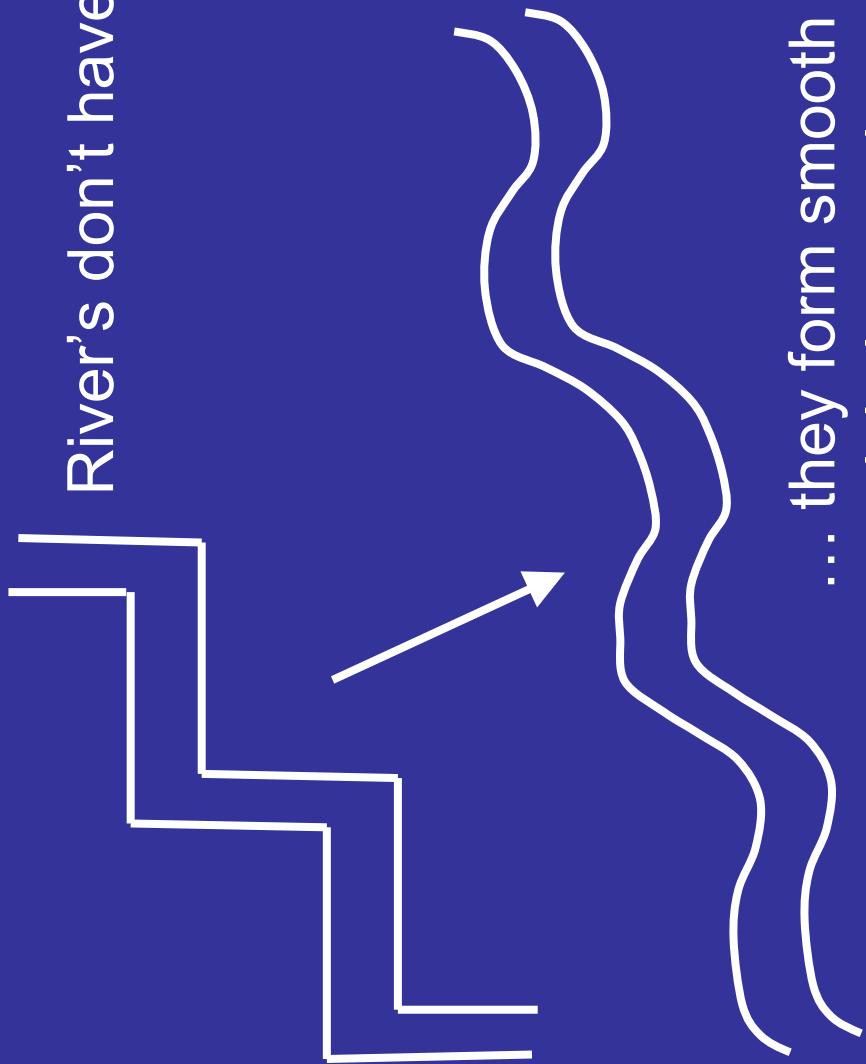






Rivers don't like fast changes

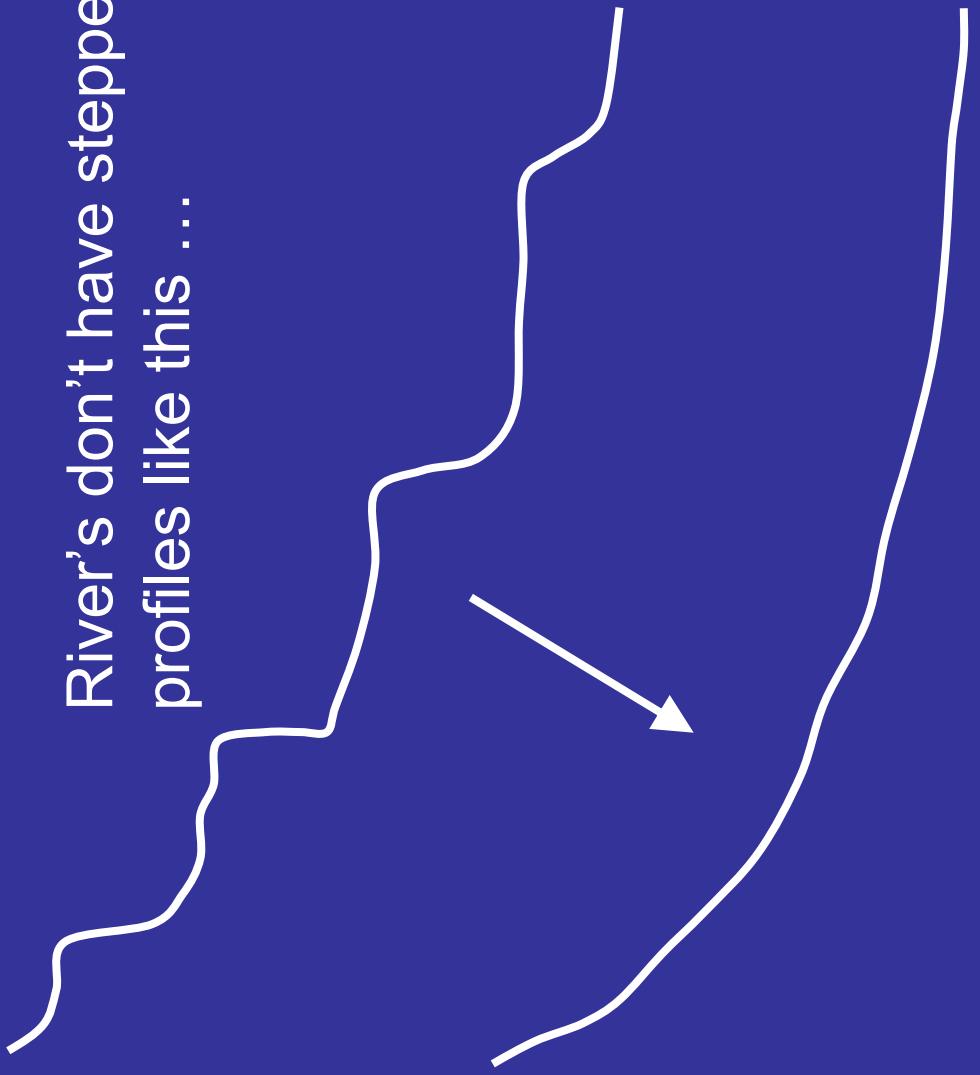
River's don't have sharp bends like this...



... they form smooth meanders like this
to minimize turning at any one point

Rivers don't like fast changes

River's don't have stepped longitudinal profiles like this ...



... they form smooth concave up profiles like this to minimize slope change at any one point